

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)
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Ken Tsuzuki et al.)
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Serial No.:	10/523,665) Art Unit
) 2817
Filed:	February 4, 2005)
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Confirmation No.:	8452)
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For:	SEMICONDUCTOR OPTICAL CONVERTER)

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. § 1.97

Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

Sir:

Please find, pursuant to 37 C.F.R. § 1.98(a)(1), the enclosed Form PTO-1449 which contains a list of all patents, publications, or other items that have come to the attention of one or more of the individuals designated in 37 C.F.R. § 1.56(c). While no representation is made that these references may be "prior art" within the meaning of that term under 35 U.S.C. §§ 102 or 103, the enclosed listed references are disclosed so as to fully comply with the duty of disclosure set forth in 37 C.F.R. § 1.56.

Moreover, while no representation is made that a specific search of office files or patent office records has been conducted or that no better art exists, the undersigned attorney of record believes that the enclosed art is the closest to the claimed invention (taken in its entirety) of which the undersigned is presently aware, and no art which is closer to the claimed invention (taken in its entirety) has been knowingly withheld.

In accordance with 37 C.F.R. §§ 1.97 and 1.98, a copy of each of the listed references or relevant portion thereof that is not a US patent document is also enclosed.

Statement of Relevance of References Listed
Unaccompanied by English Translation
Under 37 CFR § 1.98(a)(3)

In accordance with 37 CFR § 1.98(a)(3), the following concise explanation of the relevance of each listed reference that is not in the English language and unaccompanied by a translation into English is provided.

Japanese Publication No. 11-030720: **PROBLEM TO BE SOLVED**: To enable the integration of active regions and passive waveguide regions of a small radius of curvature by using an integral forming technique of an active layer by selective MOVPE (org. metal vapor phase growth method) by forming waveguides corresponding to a high mesa structure in the passive waveguides while the selective MOVPE is used.

SOLUTION: Clad layers are embedded into the semiconductor substrate by dividing these layers to the first clad layer 5 having the refractive index larger than the refractive index of InP and the second clad layer 6 the same as the substrate 1 at the time of growing the InP embedment layers after the simultaneous growth of the lower clad layer 2, active layer 3 and upper clad layer 4 on the semiconductor substrate 1 by selective growth using the MOVPE. Then, the refractive indices of the active layer 3 which is the initially selectively grown optical waveguide layer and the first clad layer 5 grown in the second time may be made nearly the same and the guided light is confined mainly into the first clad layer 5 in the passive waveguide region. Namely, the structure similar to the high mesa structure is obtd. and the radius of curvature may be reduced even in the curvilinear waveguide. The miniaturization of the semiconductor optical element is thus embodied.

Non-Prior Art Documents

Attached for the examiner's information is an Office Action issued in the Korean Patent Application No. 10-2005-7002031, dated August 30, 2006 which Korean application is of same family as the present US patent application.

Dated this 12th day of December 2006.

Respectfully submitted,

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